AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1 (Currently Amended): A method of diagnosing a fault on a transformer winding, the method comprising the ~~following~~ steps of:

[[·]] measuring the impedance on said winding as a function of frequency, said measurement being represented in the form of a first voltage gain;

[[·]] comparing said impedance measurement with a reference measurement represented in the form of a second voltage gain, said comparing includes ~~comparison including a step of~~ calculating three first parameters, each of said three first parameters being a correlation coefficient, between said first and second gains over three different frequency ranges;

~~said method comprising a step of~~ determining the relative variation of at least a fourth parameter, said fourth parameter being a physical magnitude characteristic of said transformer, said relative variation being obtained by comparing said first and second gains;

associating at least one diagnosis code with each of said three first parameters and said relative variation of said fourth parameter; and

determining the presence of the fault and identifying said fault by comparing each diagnosis code with a reference code.

Claim 2 (Original): A method according to claim 1, wherein said fourth parameter is selected from minimum gain, fundamental resonant frequency, and number of resonant frequencies present above a predetermined frequency.

Claim 3 (Original): A method according to claim 2, wherein said minimum gain is determined for a frequency below 10 kHz.

Claim 4 (Original): A method according to claim 1, wherein said three different frequency ranges are respectively: [1 kHz to 10 kHz], [10 kHz to 100 kHz], and [100 kHz to 1 MHz].

Claim 5 (Original): A method according to claim 1, including a step of determining the relative variation of at least a fifth parameter and a sixth parameter, said fifth and sixth parameters being characteristics of said transformer, said relative variation being obtained by comparing said first and second gains.

Claim 6 (Currently Amended): A method according to claim 5, wherein said fourth parameter is a minimum gain, said fifth parameter is a fundamental resonant frequency, and said sixth parameter is a number of resonant frequencies present above a predetermined frequency.

Claim 7 (Currently Amended): A method according to claim 1, wherein each of said including a step of determining a plurality of diagnosis codes indicates, each of said codes indicating whether a respective one of said parameters belongs to a predetermined range of values.

Claim 8 (Cancelled).

Claim 9 (Currently Amended): A method according to claim 8 1, wherein the

reference codes are said step of determining the presence of a fault and of identifying said

fault is performed by comparing said plurality of codes with codes stored in a search table.

Claim 10 (New): A method according to claim 1, wherein one of said three different

frequency ranges covers the range from 1kHz to 10kHz.

Claim 11 (New): A method according to claim 1, wherein one of said three different

frequency ranges covers the range from 10kHz to 100kHz.

Claim 12 (New): A method according to claim 1, wherein one of said three different

frequency ranges covers the range from 100kHz to 1MHz.

Claim 13 (New): A method according to claim 5, wherein said fourth parameter is a

minimum gain.

Claim 14 (New): A method according to claim 5, wherein said fifth parameter is a

fundamental resonant frequency.

Claim 15 (New): A method according to claim 5, wherein said sixth parameter is a

number of resonant frequencies present above a predetermined frequency.